

IN THE CLAIMS

Claims 1-6 (Cancelled)

7. (Currently Amended) An auto-cruise apparatus ~~as claimed in claim 1~~ comprising a,
~~wherein said input means further comprises vehicle-to-vehicle distance setting controller~~
for controlling a vehicle speed of a subject vehicle with a means for setting said set vehicle
speed as an upper limit of said vehicle speed such that a vehicle-to-vehicle distance
between said subject vehicle and a preceding vehicle becomes equal to a set vehicle-to-
vehicle distance and controlling said vehicle speed such that said vehicle speed becomes
equal to said set vehicle speed when it is determined that there exists no preceding vehicle
and input means capable of being operated by a driver with regard to a vehicle-to-vehicle
distance control performed by said vehicle-to-vehicle distance controller wherein said set
vehicle-to-vehicle distance and said set vehicle speed can be set by said driver via said
input means, said auto-cruise apparatus further comprising:

~~wherein said mode selector performs a switching from said constant vehicle speed~~
~~control controller for controlling mode to said~~ vehicle speed such that said vehicle speed is
maintained at said set vehicle speed whether a preceding vehicle may exist or not; and

a mode selector for selecting, in accordance with predetermined operations upon
said input means, either a vehicle-to-vehicle distance control mode in which a travel of said
subject vehicle is controlled by said vehicle-to-vehicle distance controller or a constant
vehicle speed control mode in which said travel is controlled by said constant vehicle speed
controller.

wherein a travel control by either said vehicle-to-vehicle distance controller or said constant vehicle speed controller is performed in accordance with a travel mode that has been selected by said mode selector;

wherein said input means further comprises vehicle-to-vehicle distance setting means for setting said set vehicle-to-vehicle distance; and

C¹ wherein said mode selector performs a switching from said constant vehicle speed control mode to said vehicle-to-vehicle distance control mode in response to such operation upon said vehicle-to-vehicle distance setting means that decreases said vehicle-to-vehicle distance when the subject vehicle is in said constant vehicle speed control mode.

8. (Currently Amended) An auto-cruise apparatus ~~as claimed in claim 1,~~

~~wherein said input means further comprises~~ comprising a vehicle-to-vehicle distance controller for controlling a vehicle speed of a subject vehicle with a set vehicle speed as an upper limit of said vehicle speed such that a ~~setting means for setting said set vehicle-to-~~
vehicle distance between said subject vehicle and a preceding vehicle becomes equal to a set vehicle-to-vehicle distance and controlling said vehicle speed such that said vehicle speed becomes equal to said set vehicle speed when it is determined that there exists no preceding vehicle and input means capable of being operated by a driver with regard to a vehicle-to-vehicle distance control performed by said vehicle-to-vehicle distance controller wherein said set vehicle-to-vehicle distance and said set vehicle speed can be set by said driver via said input means, said auto-cruise apparatus further comprising:

a constant vehicle speed controller for controlling said vehicle speed such that said

vehicle speed is maintained at said set vehicle speed whether a preceding vehicle may exist or not; and

a mode selector for selecting, in accordance with predetermined operations upon said input means, either a vehicle-to-vehicle distance control mode in which a travel of said subject vehicle is controlled by said vehicle-to-vehicle distance controller or a constant vehicle speed control mode in which said travel is controlled by said constant vehicle speed controller,

wherein a travel control by either said vehicle-to-vehicle distance controller or said constant vehicle speed controller is performed in accordance with a travel mode that has been selected by said mode selector;

wherein said input means further comprises vehicle-to-vehicle distance setting means for setting said set vehicle-to-vehicle distance; and

wherein said mode selector performs a switching from said vehicle-to-vehicle distance control mode to said constant vehicle speed control mode in response to such operation upon said vehicle-to-vehicle distance setting means that increases said vehicle-to-vehicle distance and is performed for a predetermined time period or more when the subject vehicle is in said vehicle-to-vehicle distance control mode.

9. (Currently Amended) An auto-cruise apparatus ~~as claimed in claim 8,~~

~~wherein said~~ comprising a vehicle-to-vehicle distance controller for controlling a vehicle speed of a subject vehicle with a set vehicle speed as an upper limit of said vehicle speed such that a setting means is capable of setting said vehicle-to-vehicle distance to at least a long, middle or short distance between said subject vehicle and a preceding vehicle

becomes equal to a set vehicle-to-vehicle distance and controlling said vehicle speed such that said vehicle speed becomes equal to said set vehicle speed when it is determined that there exists no preceding vehicle and input means capable of being operated by a driver with regard to a vehicle-to-vehicle distance control performed by said vehicle-to-vehicle distance controller wherein said set vehicle-to-vehicle distance and said set vehicle speed can be set by said driver via said input means, said auto-cruise apparatus further comprising:

C a constant vehicle speed controller for controlling said vehicle speed such that said vehicle speed is maintained at said set vehicle speed whether a preceding vehicle may exist or not; and

a mode selector for selecting, in accordance with predetermined operations upon said input means, either a vehicle-to-vehicle distance control mode in which a travel of said subject vehicle is controlled by said vehicle-to-vehicle distance controller or a constant vehicle speed control mode in which said travel is controlled by said constant vehicle speed controller,

wherein a travel control by either said vehicle-to-vehicle distance controller or said constant vehicle speed controller is performed in accordance with a travel mode that has been selected by said mode selector;

wherein said input means further comprises vehicle-to-vehicle distance setting means capable of setting said vehicle-to-vehicle distance to at least a long, middle or short distance; and

wherein said mode selector performs a switching from said vehicle-to-vehicle distance control mode to said constant vehicle speed control mode in response to such

operation upon said vehicle-to-vehicle distance setting means that increases said vehicle-to-vehicle distance and is performed for a predetermined time period or more when said vehicle-to-vehicle distance is set to long.

d 10. (Currently Amended) An auto-cruise apparatus as claimed in ~~any one of claims 7 through 9~~, wherein said input means further comprises a cruise switch for switching between a control state in which a vehicle-to-vehicle distance control by said vehicle-to-vehicle distance controller or a constant vehicle speed control by said constant vehicle speed controller is performed and a non-control state in which both said vehicle-to-vehicle distance control and said constant vehicle speed control are disabled; and

wherein said set vehicle-to-vehicle distance is set to middle when said non-control state is switched to said vehicle-to-vehicle distance control mode.

Claims 11-20 (Canceled)
